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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/073,596	05/06/1998	RALPH M. STEINMAN	20164000US5	9977

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EXAMINER	
EWOLDT, GERALD R	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SM.

Office Action Summary	Application No.	Applicant(s)	
	09/073,596	STEINMAN ET AL.	
	Examiner	Art Unit	
	G. R. Ewoldt, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *82,84-96 and 98-120* is/are pending in the application.

4a) Of the above claim(s) *82,85-88,90,93,96,98,100 and 102* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *84,89,91,92,94,95,99,101 and 103-120* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 are being acted upon.

2. Applicant's remarks/arguments, filed 6/04/04, are acknowledged. In view of Applicant's remarks/arguments the previous rejections under 35 U.S.C. 103(a) and the first paragraph of 35 U.S.C. 112 for lack of enablement have been withdrawn. In particular, Applicant's arguments that the cells of the instant invention are not the cells of the reference because the cells of the reference were not cultured in GM-CSF, has been found convincing.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 109 stands rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed, for the reasons of record as set forth in the action mailed 2/14/03 and maintained in the action mailed 2/03/04. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically, the recitation in Claim 109 of, "wherein the cell aggregates are subcultured about one to five times."

Applicant again indicates that support for the amended claim can be found at pages 29-30 of the specification, "particularly given the language of claim 28".

It remains the Examiner's position that the cite at page 29-30 cannot support the invention as now claimed. Note that the cell aggregates of the cite are limited to those of the "blood derived population", thus, not encompassing bone marrow derived cells that would be encompassed by the new claim. Also, given that the recitation of "about" in the new claim broadens the scope set forth in original claim 28, the rejection has been

maintained.

5. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 stand rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed, for the reasons of record as set forth in the action mailed 2/03/04. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically, the recitation in Claim 109 of, "A composition comprising an enriched and expanded population of antigen-activated dendritic cells" in Claims 101 and 120 is not supported by the claims or specification as filed.

Applicant arguments, filed 6/04/04, have been fully considered but are not found persuasive. Applicant argues that the example at pages 68-69 supports the invention as claimed.

Applicant is advised that specific examples disclosing the phagocytosis of latex particles cultured for a specific amount of time, or the uptake of BCG mycobacteria pulsed and cultured for specific amounts of time under specific conditions, comprises insufficient support for the generic cells of the invention as it is now broadly claimed.

6. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention, for the reasons of record as set forth in the action mailed 2/03/04.

There is insufficient written description to show that Applicant was in possession of "a modified antigen", as recited in Claim 101, or the "antigen modification" of Claim 120.

Applicant arguments, filed 6/04/04, have been fully considered but are not found persuasive. Applicant argues that support for the terms can be found at pages 41-42.

Applicant is again advised that the cite discloses no "modified antigens". The cite merely states that dendritic cells may modify antigens in some undisclosed way. This vague disclosure comprises insufficient written support for the invention of the instant claims.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 84, 89, 91-92, 94-95, 99, 101, and 103-120 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 45 and 46 of copending Application No. 10/287,813. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass antigen-activated dendritic cells.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant requests that this rejection be held in abeyance until the finding of allowable subject matter.

9. The following are new grounds of rejection.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 84, 89, 91-92, 94-95, 97, 99, 101, and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sallusto et al. (1994, IDS) in view of Aldovini et al. (1991), as evidenced by Inaba et al. (1990, IDS).

Sallusto et al. teaches cultured (which would comprise enriched and expanded) human dendritic cells pulsed with polypeptide or peptide antigens (tetanus toxoid) that process and present antigen (see particularly page 1110-1111, *Culture Conditions for the Generation of DCs with Antigen-presenting capacity*). The reference further teaches several reasons for establishing *in vitro* cultures of immature DCs (which will mature into antigen-activated DCs, i.e., DCs capable of presenting antigens), such as the exploitation of antigen presenting capacity (see page 1110, column 1, first full paragraph), as well as for use in the study of antigen capture and processing (see page 1114, column 2, Discussion).

The reference differs from the claimed invention in that it does not teach the use of a mycotuberculosis, specifically BCG, antigen.

Aldovini et al. teaches that BCG is a well-known mycobacterium antigen used in over two billion tuberculosis immunizations (as of 1991) (see particularly Abstract).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to produce cultured (which would comprise enriched and expanded) human dendritic cells pulsed with polypeptide or peptide antigens, as taught by Sallusto et al., substituting BCG as the antigen of choice, as taught by Aldovini et al. One of ordinary skill in the art at the time the invention was made would have been motivated to make said cells for the exploitation of antigen presenting capacity and the study of antigen capture and processing, as taught by Sallusto et al., substituting BCG as the antigen because BCG is a well-known mycobacterium antigen used in over two billion tuberculosis immunizations, as taught by

Aldovini et al., to produce an improved pharmaceutical composition. Note that the references do not specifically teach a pharmaceutical composition, however, pharmaceutical compositions comprising dendritic cells were well known in the art at the time of the invention as evidenced by Inaba et al. (1990, IDS).

12. Claims 110, 115, 118, and 119 are rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) the recitation in Claim 110 of, "wherein the cell aggregates are subcultured about every 3 to 30 days."

B) the recitation in Claim 115 of, "wherein said modified antigen is presented by the dendritic cells on MHC class I and MHC class II."

C) the recitation in Claims 118 and 119 of, "wherein the dendritic cell precursors are cultured in the presence of antigen."

Regarding A), the specification discloses this limitation only for a "blood derived population of dendritic cells".

Regarding B), the specification discloses this limitation only for a microbial, "other", and recombinant viral antigens.

Regarding C), the specification discloses this limitation only for a "particulate matter".

13. No claim is allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

15. **Please Note:** Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Additionally, the Technology Center receptionist can be reached at (571) 272-1600.

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8/10/04

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